

## **PAST YEAR QUESTION PAPER SAMPLES**

### **Question Paper 1**

1(a) Name the different disciplines in Engineering. Describe the job responsibilities of a Civil engineer and a Mechanical engineer.  
(10 Marks)

(b) Compare the duties of an Engineer with that of an Engineering technologist with examples.  
(10 Marks)

2(a) Explain the Traits of a Successful Professional Engineer.  
(10 Marks)

(b) Define Risk management. Describe the various steps in the risk management process.  
(10 Marks)

3(a) Describe the Engineering Functions, with examples.  
(10 Marks)

(b) Describe All the Code of Ethics of a professional Engineer.  
(10 Marks)

4(a) Describe the Engineering method of problem solving.  
(10 Marks)

(b) Explain in detail, the methods of Representation of Technical information. (10 Marks)

5 The Table below shows data from a trial run on a Malaysian road made by an experimental turbine – powered vehicle.

<b>Time, t, s</b>	10	20	30	40	50	60
<b>Velocity, V, m/s</b>	15.1	32.2	63.4	84.5	118.0	139.0

(a) Plot the data on a Rectangular graph paper.  
(10 Marks)

- (b) Determine the equation of the line using the method of selected points. (10 Marks)
- 6(a) Discuss the key (important) themes and action areas needed for sustainable development. (10 Marks)
- (b) Discuss the applications of MATLAB for engineering problem solving, and list down any five MATLAB toolboxes. (10 Marks)

### **Question Paper 2**

- 1(a) List the top TEN benefits of an engineering career and explain them briefly. (10 Marks)
- (b) Compare the work responsibilities of an Engineer and an Engineering technologist in at least two sources. (10 Marks)
- 2(a) Describe the Functions (ANY 5) of an Engineer. (10 Marks)
- (b) Define Risk management. Describe the various steps in the risk management process. (10 Marks)
- 3(a) ----- a Case study on Ethics ----- (10 Marks)
- (b) Name all the Fundamental canons of ethics of a professional engineer. (10 Marks)
- 4(a) Describe briefly, the engineering method of problem solving. (6 Marks)
- (b) A 40.0 cm log is floating vertically in water. Determine the length of the log that extends above the water line. The water density is  $1.00 \text{ gm/cm}^3$  and the wood density is  $0.6 \text{ gm/cm}^3$ . Use an Engineering paper

and list all the necessary theory or engineering principles, assumptions, sketch with known and unknown data, and solution steps in your problem solving.  
(14 Marks)

- 5 The area,  $A$ , of a circle can be determined by the formula  $A = \pi R^2$ . If the radius,  $R$ , varies from 1cm to 10 cm, perform the following:  
(4 x 5 = 20 Marks)

- (i) Construct a table of radius versus area mathematically. Use radius increments of 1 cm.
- (ii) Construct a second table of  $\log R$  versus  $\log A$ .
- (iii) Plot the values from (i) on log-log graph paper and determine the equation of the line by the method of selected points.
- (iv) Plot the values from (ii) on a rectangular graph paper and determine the equation of the line by the method of selected points.

- 6 Define sustainable development. Discuss the key (important) themes and action areas for practicing sustainability.  
(10 Marks)